

## INTRODUCTION

Severely atrophic maxillary arches can often necessitate extensive bone grafting procedures that come with high costs, long treatment times and potential complications such as infections, unpredictable graft resorption and even failures<sup>1</sup>. Alternative implant macro designs and individualized implants that utilize the patient's residual bone structure and volume are increasingly applied as alternative solutions for these severely atrophic cases<sup>1, 2, 3, 4, 15, 17, 18</sup>.

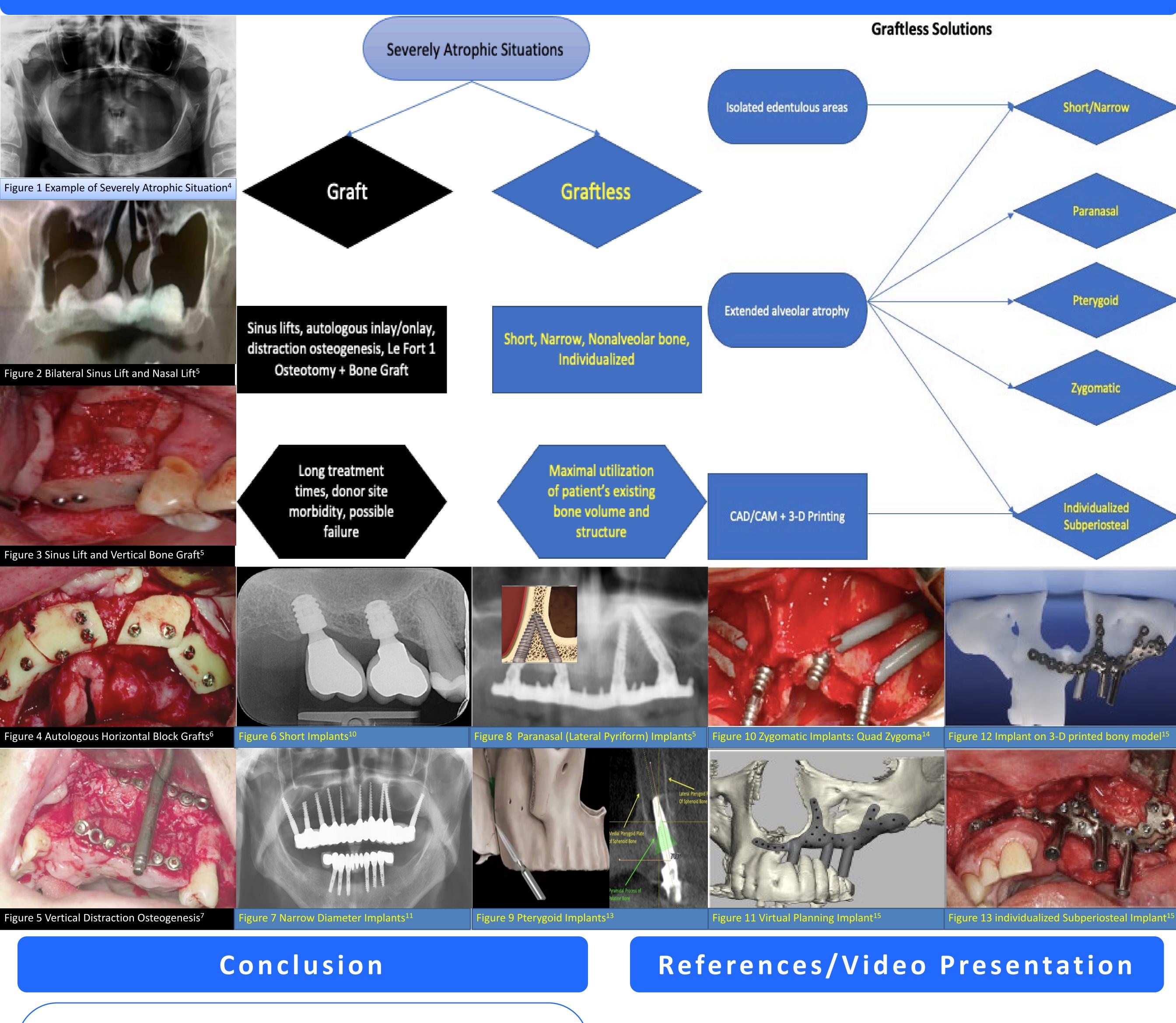
## Methods

An electronical literature search was conducted. Only articles with clear and adequate descriptions and photo documentations of bone grafting procedures and implant treatments were selected for final review.

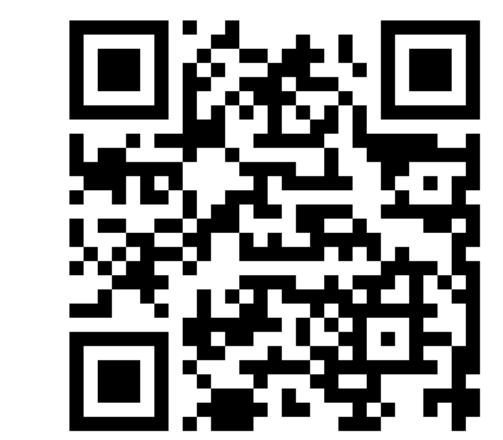
## Objective

The aim of this literature review is to research and evaluate the current state-of-the-art of graftless implantology as an alternative to extensive bone grafting procedures to rehabilitate severely atrophic maxillary arches.

## Results







The complications and morbidity that could occur from extensive grafting procedures can sometimes outweigh the benefits. Minimally grafted and graftless implants are promising treatment options to avoid unpredictable large-scale bone grafts. These options have become especially more accessible with the modern development of diagnostic imaging and 3D printing technologies<sup>15, 16</sup>.

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